

Effect of tropospheric aerosols in satellite-based trace gas retrieval

Scattering and absorption by tropospheric aerosol particles have an effect on the air mass factor (AMF), a fundamental quantity for trace gas concentration retrieval by inversion of satellite measurements. The interference effect depends on the aerosols micro-physical and optical properties as well as the relative distribution of the tropospheric trace gas and aerosol load. Quantifying the aerosol impact on trace gas retrieval requires a sensitivity study using radiative transfer calculations. In this presentation we will describe a recently initiated effort to characterize the aerosol-related error in trace gas retrievals when the presence of aerosol particles is not accounted in the inversion procedure. A general description of the project will be presented and preliminary results on aerosol effects on SO₂ retrieved concentrations will be discussed.

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